

RABINOVICH, A.A., inzhener; TIKHMENEV, B.N., inzhener.

Production of electric traction equipment at the Kirov "Dinamo" Plant.
Vest.elektroprom. 18 no.11:15-18 N '47. (MLRA 6:12)

1. Zavod "Dinamo" im. S.M.Kirova.
(Electric railroads--Equipment and supplies)

YAKUBOVSKIY, V.Ya., kand.tekhn.nauk, starshiy prepodavatel'.

"Alternating-current locomotives equipped with static converters"
by B.N. Tikhmenev. Reviewed by V.IA. Iakubovskii. Izv.vys.ucheb.zav.;
elektromekh. 1 no.8:137-141 ' 58. (MIRA 11:12)

1. Novocherkasskiy politekhnicheskiy institut.
(Electric locomotives) (Tikhmenev, B.N.)

TIKHMEYEV, B.N.

105-6-22/26

SUSLOV, B.V., Eng.

AUTHOR
TITLE

PERIODICAL

ABSTRACT

PETROV, S.A. Cand. Techn. sciences, TIKHMEYEV, B. N. Eng., SUSLOV, B.V., Eng.
Problems of Railroad Electrification.
(Voprosy elektrifikatsii zheleznikh dorog. - Russian)
Elektrichestvo, 1957, Nr 6, pp. 82-90 (U.S.S.R.)

In summer 1956 the new mercury rectifier-electrolocomotives of the series NO, constructed by the electrolocomotive manufacturing plant in Novocherkassk, were tested on the testing line Ozhherel'ye-Pavelets, 137 km of length, (south of Moscow). The essential data of these locomotives are: sequence of axles Co + Co, axle load 22 t, clutch weight 132 t, speed 75 km/h, diameter of wheel 1200 mm, voltage at collector bow 20,000 V, type of motor DPE -400, hour-ly output 425 kW, at hourly operation- traction 16 600 kg and 40,5 km/h, at continuous operation- traction 16 600 kg and 43 km/h. The average operating efficiency with consideration of internal consumption is 0,81-0,82 power coefficient 0,8-0,82. The energy coefficients agree well with those of mercury-rectifier-electrolocomotives abroad. Imperfections which occurred at the trial trips are enumerated and suggestions for improvements are made. The rectifier aggregates do not yet work reliable enough, safety devices have to be improved, a recuperative braking system of auxiliary aggregates should be coupled with the compensating device for idle power of the locomotive. It is further stated that electrification based upon alternating current with industrial frequency and a v-

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Problems of Railroad Electrification.

105-6-22/26

ge in the consumer line of 20-25 kV is absolutely preferable to electrification based upon direct current with a voltage of 3 kV. Problems in connection with coordinating both types of current are discussed. A survey was also given of the experience made with problems concerning rectifier electrolocomotives in France. Finally the data of the two new six-axle test electrolocomotives of the series N60 with 4 000 Kw are given- clutch weight 138 t, speed 45 km/h, frequency 50 hertz, voltage 20 kV, traction (at hourly operation) 33 t.

ASSOCIATION

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Card 2/2

Institute for Complex Transport Problems of the Academy of Science of the U.S.S.R., Allunion Institute for Railroad Affairs of the Ministry of Traffic.

Library of Congress.

ANTIPIN, G.V., mashinist elektrovoza, Geroy Sotsialisticheskogo Truda;
 BELIKOV, I.I., elektromonter; PRESNYAKOV, I.R., Geroy
 Sotsialisticheskogo Truda; DENISKIN, A.I., mashinist-instruktor;
 MANONIN, N.I., tovar'-ratsionalizator; KAZACHEN, I.K.;
 CHEN HUA-DIN [Ch'eng Hua-ting]; U FYN [Yu Fêng]; LYU I [Liu I];
 YAN CHAO [Yong Ch'ao]; TIKHMEYEV, B.N., doktor tekhn.nauk;
 ZASLADIN, A.V., inzh. (g.Parizh); RUKOV, V.A., inzh.;
 PIVOVAROV, G.I.

A feat which will live forever. Elek. 1 topl. tiaga 5 no.5:1-
 3 by '61. (MIRA 14:7)

1. Depo Krasnoyarsk (for Antipin). 2. Omskaya distantsiya
 kontaktnoy seti (for Belikov). 3. Master avtomatnogo tsel'ha
 depo Liski (for Presnyakov). 4. Lokomotivnoye depo Orenburg,
 rukovoditel' kolonny teplovozov imeni XXII "yezda partii (for
 Deniskin). 5. Instrumental'nyy tsel'ha kommunisticheskogo truda
 lokomotivnogo depo Kuybyshev (for Manonin). 6. Literaturnyy
 sotrudnik gazety "Kuybyshevskiy zheleznodorozhnik" (for
 Kazachek). 7. Moskovskiy institut inzhenerov transporta (for
 Chen Hua-din, U Fyn, Iyu I, Yan Chao). 8. Rukovoditel'
 laboratorii peremennogo toka Vsesoyuznogo nauchno-issledovatel'skogo
 instituta zheleznodorozhnogo transporta Ministerstva putey
 soobshcheniya (for Tikhmenev). 8. Nachal'nik depo Leningrad-
 Baltiyskiy (for Pivovarov).

(Astronautics)

TIKHMEYEV, B. N.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr. 1954)

<u>Name</u>	<u>Title of Work</u>	<u>Nominated by</u>
Tikhmenev, B. N.	"Rolling Stock of Electric Railroads" (text book, 3 vol)	Moscow Electromechanical Institute of Railroad Engineers imeni F. E. Dzerzhinskiy

80: W-30604, 7 July 1954

TIKHMENEV, B.N., doktor tekhn.nauk; IZOSIMOV, A.V., kand.ekonom.nauk;
NEKRASOV, O.A., kand.tekhn.nauk; LAPIN, V.B., inzh.

Technical and economic comparison of methods for joining a.c. and d.c.
electrified railroad districts. Trudy TSNII MPS no.256:108-122 '63.
(MIRA 16:6)

(Electric railroads)

TIKHOMENEV, B.N., doktor tekhn. nauk; RUBCHINSKIY, Z.M., kand. tekhn. nauk

Avalanche type silicon rectifiers and possibility for their use
on electric trains. Elek. i tepl. tiaga 9 no.11:39-42 N '65.

(MIRA 19:1)

TIKHMEYEV, M. G.

Tikhmenev, M. G. - "On reforming the unit of measurement of the degree of hardness of water", (Report), Soobshch. o nauch. rabotakh chlenov Vsesoyuz. khim. o-va im. Mendeleeva, 1949, Issue 2, p. 5-6.

SO: U-4630, 16 Sept. 53, (Letopis 'Zhurnal 'nykh Statey, No. 23, 1949).

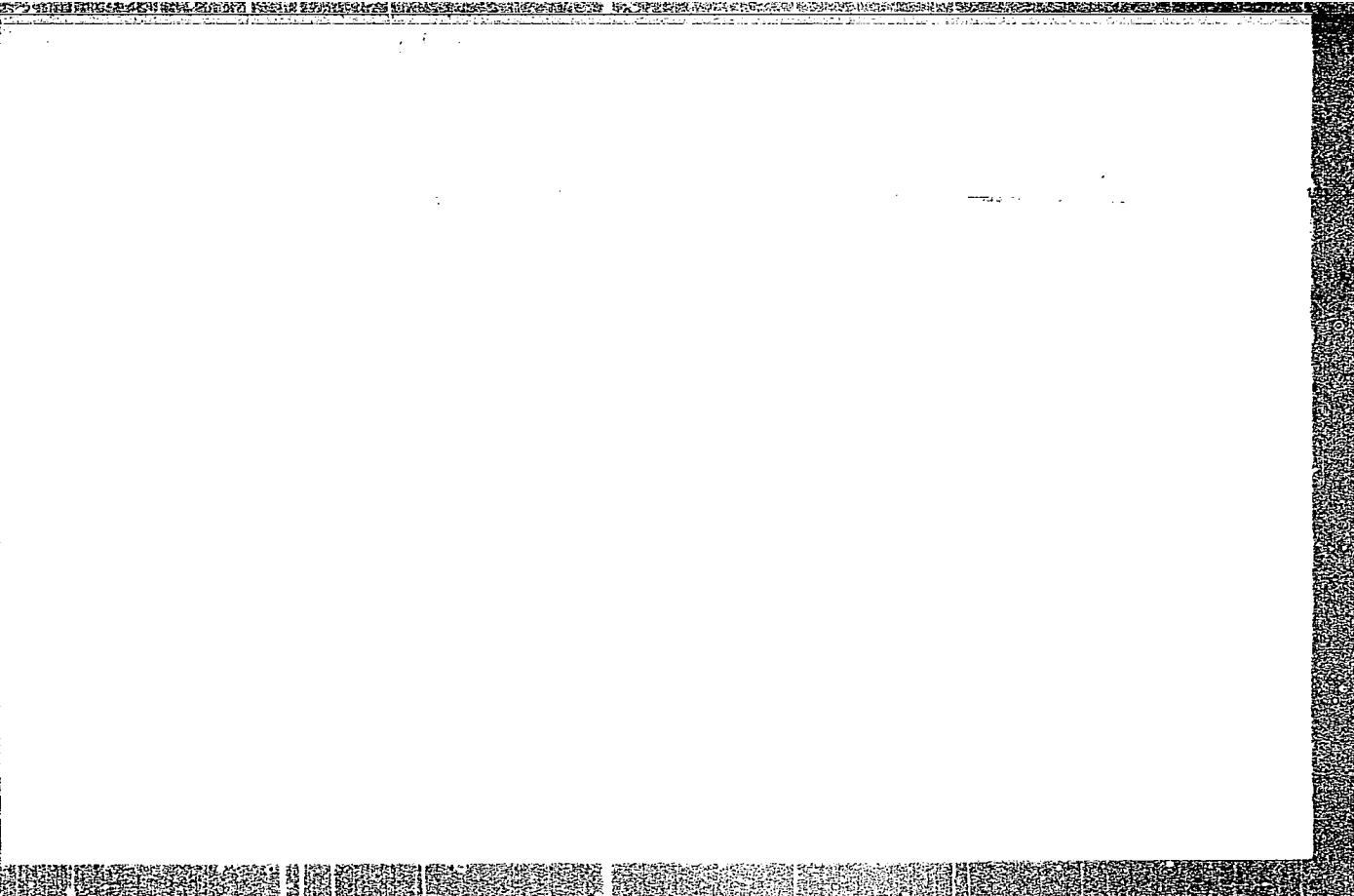
TIKHMENEV, M.G., dotsont

Letter to the editor. Khim.v shkole 15 no.1:89 Ja-P '60.
(MIRA 13:5)

(Polymers)

"APPROVED FOR RELEASE: 03/14/2001

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<p>CA</p> <p>Reform of the accepted unit of hardness of water. M. G. Tikhonov. <i>Zhur. Priklad. Khim.</i> (J. Applied Chem.) 21, 1300(1948). -The proposed unit, called "Russian degree of hardness," corresponds to a content of 1 g. of Ca⁺⁺ ions (or equiv. amts. of other ions producing hardness) in 1 l. of water. Thus, one "Russian degree" is equiv. to 1/2 German degrees, defined by the content of 1 g. CaO/l.</p> <p>N. Thon</p>																										<p>14</p>																									
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TIMMENEV, Sergei Aleksandrovich.

Firing from stationary machine-guns Moskva, Gos. voen. izd-vo, 1936. 118 p.
(43-31550)

UF625.T5

TIKHOMENOV SERGEY ALEKSEYEVICH

TIKHOMENOV, SERGEY ALEKSEYEVICH.

Usloviia strel'by po samoletam iz stankovogo pulaneta (metod issledovaniia). Moskva, Gos. voen. izd-vo, 1936. 120 p., illus., tables, diagrs.

At head of title: Nauchno-issledovatel'skii otdel Stralkovo-takticheskogo instituta RKKA.

Title tr.: Machine-gun firing at aircraft (methods of investigation).

UF625.T5

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

TIKHOMENEV, S.S.

BULGAKOV, B.V., and S.S. TIKHOMENEV

Teoriia giro-gorizonta Sperry s maitsnikovoi vozdukhoduvnoi korrektsiei.
(Moskva. Universitet. Uchenye zapiski, 1937, v. 7: Mekhanika, p. 181-199, diagrs)

Summary in English.

Title tr.: Theory of the Sperry airplane horizon.

Q60.M868 1937

S0: Aeronautical Sciences and Aviation in the Soviet Union, Library of
Congress, 1955

TIKHMENEV, S. S., and BULGAKOV, B. V.

"Teoria giro-gorizonta sperrri s marnikovoy vozdukhovoy korrektsiyey,"
Ucheniye zapiski ngu, NO.8, oo 181-199, 1937

TIKHMENEV S.S.

Theory of Aircraft Instruments. VVA

Imeni Zhukovskiy (1940)

TIKHMEYEV, S. S.

PARTS OF PRECISION INSTRUMENTS. 1946. (Elementy Tochnykh Priborov).

124-57-2-2573

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 2, p 148 (USSR)

AUTHOR: Tikhmenev, S. S.

TITLE: On the Bimetallic Temperature Force Compensation for Instruments (O silivoy temperaturnoy bimetallicheskey kompensatsii priborov)

PERIODICAL: V kn.: Elementy rascheta tochnykh priborov. Moscow, Oborongiz, 1954, pp 5-24

ABSTRACT: Description of the calculation of bimetallic temperature force compensation for the pressure-sensitive elements of instruments; aneroid and manometric membrane bellows are used as examples. The problem of the selection of a relationship between the compensating force and the operation of the sensitive element is examined. It is shown that a full temperature compensation is possible only in two points of the characteristic curve of a sensitive element. In the derivation of the formulas the usual simplifications according to the method of strength of materials were introduced. The case of rectangular and trapezoidal bimetallic foils is analyzed, and a graphical analytical method for the selection of the design parameters of the compensation is proposed. L. Ye. Andreyeva

Card 1/1

1. Pressure gages--Temperature factors
2. Pressure gages--Calibration
3. Mathematics

TIKHOMENOV, S S , MD.

B/C
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Elementy teorii i rascheta giroskopicheskikh i navigatsionnykh priborov
(Elements of theory and computation of gyroscopic and navigational instru-
ments) Moskva, oborongiz, 1955.

131 p. Diagr., tables.

At head of title-page: (Moscow) Vyesheye Tekhnicheskoye Uchilische.

TIKHMENEV, S.S., doktor tekhnicheskikh nauk, professor.

Brief history of the department of "Gyroscopic instruments and
devices." [Trudy] MVTU no.48:3-5 '55. (MLRA 9:8)
(Nautical instruments) (Aeronautical instruments)
(Gyroscope)

TIKHMENEV, S.S., doktor tekhnicheskikh nauk, professor.

Horizontal turn errors of a directional gyro caused by the correction of the gyroscope's horizontal axis. [Trudy] MVTU no.48:23-36
'55. (MLRA 9:8)

(Gyrocompass)

TIKHOMNEV, S.S., doktor tekhnicheskikh nauk, professor.

The deviation of directional gyros from the azimuth caused by corrections of gyroscope axis' perpendicularity to the axis of the gimbal's outer frame mounting during the swinging of the instrument around an horizontal axis. [Trudy] MVTU no.48:37-56 '55.(MLBA 9:8)
(Gyrocompass)

TIKHOMENOV, S.S., doktor tekhnicheskikh nauk, professor.

Calculation of certain springs with variable elasticity. [Trudy]
MVTU no.48:84-123 '55. (MLRA 9:8)
(Springs (Mechanisms))

KOZLOV, Andrey Stepanovich; HYABOV, B.A., doktor tekhnicheskikh nauk, retsenzent;
TIKHMENEV, S.S., dorktor tekhnicheskikh nauk, retsenzent; KOZLOV, M.S.,
kandidat tekhnicheskikh nauk, redaktor; PETROVA, I.A., redaktor; ZUBA-
KIN, I.M., tekhnicheskiiy redaktor.

[A theory of gyroscopic aeronautical instruments] Teoriia aviatsiennykh
giroskopicheskikh priborov. Moskva, Gos.izd-vo obor.promyshl., 1956.
255 p. (Aeronautical instruments) (Gyroscope) (MLPA 9-5)

TIKHMENEV, Sergey Sergeyevich; FRIDLENDER, G.O., professor, doktor
tekhnicheskikh nauk, retsenzent; SELEZNEV, V.P., dotsent,
kandidat tekhnicheskikh nauk, retsenzent; MATVZEV, N.K., inzhener
retsenzent; GUROV, S.Z., redaktor; LOSKVA, G.F., izdatel'skiy
redaktor; ANTONYUK, P.D., tekhnicheskiiy redaktor

[Elements of precision instruments; a computation and construction
manual] Elementy tochnykh priborov; rukovodstvo po raschetu i
konstruirovaniyu. Moskva, Gos.izd-vo obor. promyshl., 1956. 360 p.
(Instruments)

TIKHMENEV, S.S.

PAVLOV, V.A., kandidat tekhnicheskikh nauk, dotsent; TUNIMANOV, A.Z., inzhener; ANTONOV, A.K., inzhener; GUSHCHINA, L.M., inzhener; RIVKIN, S.S., doktor tekhnicheskikh nauk; SAYDOV, P.I., kandidat tekhnicheskikh nauk, dotsent; PEL'POR, D.S., doktor tekhnicheskikh nauk, professor; RYABOV, B.L., doktor tekhnicheskikh nauk, professor; TIKHMENEV, S.S., doktor tekhnicheskikh nauk, professor; FRIDLENDER, G.O., doktor tekhnicheskikh nauk, professor; CHISTYAKOV, N.I., doktor tekhnicheskikh nauk, professor.

Can V.A. Pavlov's book "Aircraft gyroscope instruments" be recommended for use as a textbook? Priborostroenie no.1:29-31 Ja '57.

(MIRA 10:4)

1. Chlen pravleniya Leningradskogo otdeleniya nauchnogo inzhenerno-tekhnicheskogo obshchestva priborostroitel'noy promyshlennosti (for Tunimanol).
2. Chlen pravleniya Vsesoyuznogo nauchnogo inzhenerno-tekhnicheskogo obshchestva priborostroitel'noy promyshlennosti (for Gushchina).
3. Moskovskoye Vysshaye tekhnicheskoye uchilishche imeni Baumana (for Pel'por, Tikhmenev).
4. Moskovskiy aviatsionnyy institut imeni Serge Ordzhonikidze (for Ryabov).
5. Voenno-vozdushnaya inzhenernaya akademiya imeni N.Ye. Zhukovskogo (for Chistykov)

(Gyroscope)

TIKHOMENEV, S.S., prof., doktor tekhn.nauk

Asimuth deviations of gyrosemicompasses with interfrase "yes-no-type" correction caused by vibrations of the instrument about a certain horizontal axis. Nauch.dokl.vys.shkoly; mash.i prib. no.1:173-182 ' 58. (MIRA 12:1)

1. Predstavleno kafedroy "Giroskopicheskiye pribory i ustroystva" Moskovskogo vysshego tekhnicheskogo uchilishcha imeni N.E. Baumana.

(Gyrocompass)

SOV/146-2-5-10/19

24(6)

AUTHOR: Tikhmenev, S.S., Doctor of Technical Sciences,
Professor

TITLE: The Problem of "Jilt" (Uvod) During the Nutation of a Gimbal-Mounted Gyroscope

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Priborostroyeniye, 1959, Nr 5, pp 63 - 67 (USSR)

ABSTRACT: The author disputes the statements made by V.N. Drozdovich in "Izvestiya vysshikh uchebnykh zavedeniy MVO SSSR", Priborostroyeniye Nr 3, 1958. Drozdovich refuted the results of investigations made by K. Magnus and Professors V.A. Pavlov, and D.S. Pel'por. It is pointed out that V.N. Drozdovich did not take into account the forces and moments due to reaction of the stay and the reaction moment of the bearings in the gyroscope's outer gimbal frame. This article was recommended by the Kafedra "Giroskopicheskiye

Card 1/2

SOV/146-2-5-10/19

The Problem of "Jilt" (Uvod) During the Nutation of a Gimbal-Mounted Gyroscope

pribery" (The Chair of "Gyroscopic Instruments").
There is 1 diagram.

ASSOCIATION: Moskovskoye Ordena Lenina i Ordena trudovogo krasnogo znameni vyssheye tekhnicheskoye uchilishche imeni N.E. Bauman (The Moscow School of Higher Technical Education imeni N.E. Bauman, Order of Lenin and the Red Labor Banner)

SUBMITTED: September 11, 1959

Card 2/2

S/549/61/000/104/001/018
D237/D304

AUTHORS: Tikhmenev, S.S., Tronina, V.P., Chikin, V.A., Knyazev, G. N., Gulyayev, M.P., Zakharov, Yu.Ye., Chikina, I.S., Iyamin, V.I., Bocharov, V.K., Shigin, Ye.K., and Krotov, V.F.

TITLE: Scientific, pedagogical and general activities of Professor V.V. Dobronravov

SOURCE: Moscow, Vyssheye tekhnicheskoye uchilishche [Trudy], no. 104, 1961. Mekhanika, 7 - 18

TEXT: On the occasion of his 60th birthday and the 35th anniversary of the scientific and pedagogical activity of Professor, Doctor of Physical and Mathematical Sciences, Vladimir Vasilyevich Dobronravov who is at present Professor of Theoretical Mechanics at MVTU im. N.E. Bauman (MVTU im. N.E. Bauman), eleven of his students present this appreciation. V.V. Dobronravov was born on March 17th, 1901. In 1924 he obtained his degree in mathematics at the Saratovskiy Gosudarstvennyy universitet im. N.G. Chernyshevskiy (Saratov State University im. N.G. Chernyshevskiy). In 1927 he accepted the

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Scientific, pedagogical and ...

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post of Assistant to the Professor of Physics at the Astrakhan State Medical Institute, where in subsequent years he published a paper in neuro-biophysics. During 1929-31, he was Professor of Mathematics at the Saratov Agricultural Institute and lectured at Saratov University. From 1931 he worked in a number of higher educational establishments in Moscow and was associated with Moscow University from 1931 to 1952. In 1946 he was awarded a doctorate at Moscow State University and in 1951 he was elected to the Department of Theoretical Mechanics at MVTU im. N.E. Bauman, where in subsequent years, under his guidance, courses in specialized branches such as stability of motion, gyroscopy, oscillation, variational method etc. were developed. During his career the main contributions made were in the field of mechanics of non-holonomic systems. After 1950 he published papers on kinetics of motion of rigid body (Trudy MikhM, no. 2, (10), 1950), stability of linear systems of diff. equations with constant coefficients in (Avtomatika i Telemekhanika, v. 17, no. 3, 1956) etc. In the 1950's he also became interested in astronautics. He has been a member of the Moscow Mathematical Society since 1944, and is an active member of the Methodological Commis-

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Scientific, pedagogical and ...

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sion on the Theoretical Mechanics of the Ministry of the Secondary and Higher Education of USSR. At present he is engaged in preparing a monograph on non-holonomic systems.

ASSOCIATION: Moskovskoye ordena Lenina i ordena trudovogo krasnogo znamenii vyssheye tekhnicheskoye uchilishche im. Bauman (Moscow Order of Lenin and Order of the Red Banner of Labor Higher Technical School im. Bauman)

Card 3/3

13.2521

35629
S/549/61/000/104/005/018
D237/D304

AUTHOR: Tikhmenev, S.S., Doctor of Technical Sciences, Professor

TITLE: The behavior of some gyroscopes

SOURCE: Moscow. Vyssheye tekhnicheskoye uchilishche [Trudy],
no. 104, 1961. Mekhanika, 38 - 41

TEXT: The author describes the behavior of a gyroscope consisting of a sphere with a segment cut off and a cylindrical tube attached axially to its plane part. When it is subject to a sufficiently fast rotation about its axis and then its spherical part is placed on a horizontal plane, the end of the tube begins to descent till it touches the plane, after which the spherical part continues to rise, until the vertical position is reached. A theoretical explanation of this phenomenon is given, and equations of motion derived. X

Card 1/1

DANILIN, Vasilii Petrovich; TIKHMENEV, S.S., zasl. deyatel' nauki
i tekhniki, doktor tekhn. nauk, retsenzent [deceased];
MAKSIMOV, V.V., dots., retsenzent; ARUTYUNOV, S.S., dots.,
retsenzent; FRIDLENDER, G.O., prof., nauchn. red.;
TITOVA, V.A., red.; DANILOVA, V.V., red.

[Gyroscopic instruments] Giroskopicheskie pribory. Moskva,
Vysshaya shkola, 1965. 538 p. (MIRA 18:6)

... (deceased)

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shkola", 1955. 300 p. ...
last page. 10,000 copies printed.

TOPIC TAGS: gyro instrument, gyro horizon, gyro course indicator,
gyrocompass, gyro stabilizer, gyro instrument design

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TABLE

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Ch. VI. Gyro horizon with a constant correction

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Card 5/4

L 51180-65

AM5016216

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Bibliography -- 534

AVAILABLE: Library of Congress

SUB CODE: NG

SUBMITTED: 03Dec64

NO REF SOV: 035

OTHER: 002

Card

414713

AUTHORS:

TIKHOMENOV, V. E.
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Technical Sciences, Kotikov, A. B., Engineer,
Stiop, Ya. I., Engineer, Genishta, Ye. S., Engineer,
Tikhmenev, V. B., Engineer

105-58-5-4 /28

TITLE:

A Calculating Machine for Controlling Arc-Furnace Duty
(Vychislitel'noye ustroystvo dlya upravleniya rezhimom
dugovoy pechi)

PERIODICAL:

Elektrichestvo, 1958, Nr 5, pp. 15-20 (USSR)

ABSTRACT:

At first an analysis of the controlling method of the
electric operation of arc-furnaces according to the
ratio between amperage and voltage in the phase is given,
which now is everywhere in use. It is shown that it is
useful to abandon this method and to change over to the
controlling method by means of calculating machines. In
these the power of effective electric energy supplied
to the furnace is controlled. This method is based on the
maintainance of the equations (1), (2) and (3). A scheme
for an electromechanical variant of a calculating machine
for one of the furnace phases is given. By means of a

Card 1/3

APPROVED FOR RELEASE: 03/14/2001

A Calculating machine for Controlling Arc-Furnace Duty 105-58-5-4/28

diagram the controlling character in the absence and in the presence of the calculating devices is illustrated. The contradiction between the necessity of a quick removal of the produced deviation of power from the nominal value - and the necessity of a relatively slow compensation of the produced deficiency easily can be removed, when the employed electrodynamic controller is characterized by a maximum high-speed effect, whilst the velocity of the transients (determined by the effect of the calculating machine) is tuned in within the demanded limits at the expense of controlling the amplifier factor of the integrating member. The calculating device reacts to all excitations causing a deviation of the power from its given mean value. The practical experience with the calculating machine shows that during melting at $t = 10$ sec the variation of the real current caused by excitations does not exceed $\pm 10\%$ of the arc-current mean value. The one-year lasting test operation of the calculating machine showed that during complicated melting processes the machine guarantees an energy supply with an error not exceeding 2% . By the aid of the

Card 2/3

- A Calculating Machine for Controlling Arc-Furnace Duty 105-58-5-4/28

calculating machine it was possible to diminish the asymmetry of electroenergy distribution between the phases of a 20 t furnace by the 2,5-fold. The following persons took part in creating the electron calculating machine: A. A. Fel'dbaum, Doctor of Technical Sciences, L. N. Fitsner, Candidate of Technical Sciences, Yu. M. Alyshev, Engineer, L. I. Shevchenko, Engineer. There are 5 figures and 5 references, which are Soviet.

ASSOCIATION: Tsentral'naya laboratoriya avtomatiki tresta "Energochermet" (Central Laboratory for Automation of the "Energochermet" Trust)

SUBMITTED: May 27, 1957

AVAILABLE: Library of Congress

Card 3/3 1. Electric furnaces--Control systems Applications 2. Mathematical computers--

TIKHOMENOV, V.B.

YEFROIMOVICH, Yu. Ye., kand. tekhn. nauk; KOTIKOV, A.N., inzh.; STIOP,
Ya. I., inzh.; GELISHTA, Ye. S., inzh.; TIKHOMENOV, V.B., inzh.

Computing device for arc furnace control. Elektrichestvo no.
5:15-20 My '58. (MIRA 11:7)

1. Tsentral'naya laboratoriya avtomatiki tresta "Energochermet."
(Electric furnaces)
(Calculating machines)

KULEBAKIN, V. S., Acad., ROSENFEL'D, V. Ye., Prof., LIVSKITS, I. I. TIKHMEYEV, V. N.

Mine Haulage

Concerning B. S. Belovidov's article "Range of usefulness of condenserelectric locomotives." Gor. zhur. 126 no. 6 (1952)

9. Monthly List of Russian Accessions, Library of Congress, September 1952 ~~1954~~, Uncl.

KULEBAKIN, V. S., Acad., ROSENFEL'D, V. YE., Prof., LIVSHITS, I. I., TIKHMEYEV, V. N.

Mine Haulage

Concerning B. S. Belovidov's article "Range of usefulness of condenser electric locomotives." Gor. zhur. 126 no. 6 (1952).

9. Monthly List of Russian Accessions, Library of Congress, September, 1952, ~~1953~~ Unclassified.

TIKHMENEV, M. G.

M. G. Tikhmenev -- Letter to the editor: concerning the amendment to the accepted unit of measurement of the hardness of water. P. 1306.

SO: Journal of Applied Chemistry (USSR) 21, No. 12 (1948) August 10, 1948

SHKLYAKHOVSKIY, M.V., docent (Novosibirsk 5, ul.Gogolya, d.65, kv.27);
TIKHOMENEVA, T.P.

Immediate results of a resection of the pubic bone due to
chondroma. Ortop., travm. i protez. 26 no.12:61-63 D '65.
(MIRA 19:1)

1. Submitted April 16, 1965.

TIKHMINOVA, K.S., aspirant

Effectiveness of treatment of children suffering from rheumatic fever at Kislovodsk. Vop.okh.mat. i det. 8 no.2:
64-68 F'63. (MIRA 16:7)

1. Iz kafedry detskikh bolezney (zav. - prof. G.I.Tets) lechenogo i sanitarno-gigiyenicheskogo fakul'tetov Khar'kovskogo meditsinskogo instituta i Pyatigorskogo nauchno-issledovatel'skogo bal'neologicheskogo instiuta (dir. - kand.med. nauk Ye.A.Kamenskiy) na baze Detskogo klinicheskogo sanatoriya v Kislovodske (glavnyy vrach A.A.Simonova) Nauchnyy rukovoditel' - doktor med.nauk prof. G.I. Tets.
(KISLOVODSK—BATHS, MEDICATED)
(RHEUMATIC HEART DISEASE)

CA

112

Quantitative investigation of the soluble carbohydrates of the unripe fruit of pumpkin (*Cucurbita pepo*) and the hydrolysis of the substance. M. G. Tikhomirov. *J. Applied Chem.* (U. S. S. R.), 6: 225-5 (1933). Pumpkin fruit was freed from seeds and cut, with 80% KOH and boiled for 3 hrs. on a water bath after the addition of chink. The cat. was filtered through strong cloth and the cats. separated twice. The cat. contained mainly monomers; mannose and galactose were abundant; large amts. of *D*-fructose with an amount of dextrine were found. Cellobiose, monomer and arabinose were not found and the liberation curve indicates the absence of an appreciable amt. of acid.

A. A. Bushling

A A Newburgh

ASM-514 METALLURGICAL LITERATURE CLASSIFICATION

1101 1147

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TEST AND INSPECTION

PROCESSES AND PROCEDURES

9

Determination of the corrodibility of metal surfaces with iodine. M. G. Ekhmenev and V. P. Zvereva. *Zavodskaya Lab.* 7, 670-82 (1958). The corrodibility of roofing sheet metal, galvanized iron, Al, Cu, Zn, Ni and stainless Ni steel was detd. by exposing rough and polished plates (9-15 sq./cm.) in corked test tubes to the action of 5-15 ml. of 0.001 N I in KI, benzene and alc. at room temp. for 30 min. The amt. of I used in the reaction gives the degree of corrodibility and for plated metals the degree of porosity and condition of the protective coating. By this test only the metal surface and not the corresponding oxides react with the reagent. The excess I is detd. either by back titration with $\text{Na}_2\text{S}_2\text{O}_3$ or colorimetrically (I in benzene or alc.). Chas. Blanc

AS 6-31A METALLURGICAL LITERATURE CLASSIFICATION

GROUP	CLASS	SUBCLASS	DETAILS
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<div style="position: absolute; top: 10px; left: 10px; font-size: 2em; font-weight: bold;">CA</div> <div style="position: absolute; top: 10px; right: 10px; font-size: 2em; font-weight: bold;">7</div> <div style="position: absolute; top: 300px; left: 350px;"> <p>A simplified method for the determination of aluminum in Thermit. M. G. Tikhomirov. (Bauman Tech. Inst., Moscow). <i>Zavodskaya Lab.</i> 11, 738-9(1945). Dissolve 0.3 g. of Thermit in 20% NaOH and collect the H evolved in a gas buret. Satisfactory results are obtained because metallic Fe and Fe oxides do not react with base. Complete decompn. of Al requires 4 hrs., although most of the metal dissolves in 2 hrs. No Fe was found in the filtrate. The vol. of H evolved (in cc.) and the quantity of Al found in 3 parallel analyses of 0.25-g. Thermit samples dissolved in 10 ml. of NaOH were, resp.: 71.6 and 0.057, 67.1 and 0.054, 70.6 and 0.057. Four references</p> </div>															<div style="text-align: center;">7</div>																													
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PROCESSING AND PROPERTY INDEX																									
1ST AND 2ND ORDERS													3RD AND 4TH ORDERS												
<p>Quantitative investigation of the soluble carbohydrates of the unripe fruit of pumpkin (<i>Cucurbita pepo</i>) and the hydrolysis of its cellulose. M. G. Tukhmenov, J. <i>Applied Chem. (U. S. S. R.)</i> 6, 320-5(1933).—Pumpkin flour was freed from fats and extd. with 85% EtOH and boiled for 2 hrs. on a water bath after the addn. of chalk. The ext. was filtered through strong cloth and the extn. repeated twice. The ext. contained mainly monomers; mannose and galactose were absent; large amts. of <i>d</i>-fructose with an admixt. of dextrane were found. Galactose, mannose and arabinose were not found and the bi-rotation curve indicates the absence of an appreciable amt. of acid.</p> <p style="text-align: right;">A. A. Borchlink</p>																									
<p>ASB-SEA METALLURGICAL LITERATURE CLASSIFICATION</p>																									

GTRSPL Vol. 5-No. 1 Jan. 1952

Tikhin, V.N., Fazin' Devonian period, 753-6

Akademiya Nauk, S.S.S R., Doklady Vol. 78, No. 4

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CP

Polymetallic ore deposits of Akdtal in Northwest Balkhash District (Russia). L. Z. Shavshukova and N. D. Tikhomirov. *Tsvetnyy Metal*, 1939, No. 8, 10-21. A geological and mineralogical description of the region is given, and suggestions are made for further exploration of these promising ore deposits. The principal minerals are: galena, sphalerite, pyrite, antimonite, cerussite, anglesite, smithsonite, siderite, limonite and calamine.

B. N. Daniloff

ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION

GROUPS

SECTION

1ST AND 2ND ORDERS

VOLKOV, M.A.; TIKHOBAYEV, G.A.; RASTORGUYEV, A.K., starshiy prepodavatel'

New transistorized automatic devices in textile finishing
factories. Tekst. prom. 23 no.7:57-61 J1 '63. (MIRA 16:8)

1. Glavnyy inzh. fabriki imeni rabochego F. Zinov'yeva (for Volkov). 2. Master gruppy avtomatiki fabriki imeni rabochego F. Zinov'yeva (for Tikhobayev). 3. Kafedra elektrotekhniki Ivanovskogo tekstil'nogo instituta imeni M.V. Frunze (for Rastorguyev).

(Automatic machines) (Textile finishing)

TIKHOBRAZOV, A.I., inzh.

Grinding journals of drying cylinders. Bum. prom. 36 no.8:
21 Ag '61. (MIRA 14:8)

1. Balakhninskiy kombinat.
(Grinding and polishing) (Papermaking machinery)

TIKHODEYEV, G.M.

DECEASED

C 1961

1962/5.

SEE ILC.

WELDING

TIKHODEYEV, I. M.

SHATELEN, M. A., ZALESSKIY, A. M., LEBEDEV, V. P., TELESHEY, B. A.,
ZHERBIN, S. M., ARKHANGEL'SKIY, F. K. BAUMGOL'TS, A. I.,
ZOLOTAREV, T. L., BUSHUYEV, M. N., PROSKURYAKOV, V., GURVICH, A. M.,
YES'MAN, A. I., SHVETS, F. T., KONDRAT'YEV, G. M., USOV, S. V.,
ALEKSEYEV, A. YE., BOLOTOV, V. V., TIKHODEYEV, I. M., GERASIMOV, N. V.,
MELENT'YEV, L. A., LEVIT, G. O., ORLOVSKIY, A. V., VEDIKHOV, V. M.,
STRIKOVICH, M. A., GREYNER, L. K., NIKIFOROV, V. V., SOLODOVNIKOV, G. S.,
SMIRNOV, S. P., ZOLOTAREVA, N. A., KALEKINA, N. M., GOL'DMERSHTEYN, T. L.,
KLEBANOV, L. D., SALUYEV, N. F., ZAICO, A. A., MARTEKS, M. F.

A. S. Rumyantsev, Obituary. Elektrichestvo, No. 2, 1952.

SO: Monthly List of Russian Accessions, Library of Congress, July 1952 465b1, Uncl.

TIKHODEYEV, N. N.

"Lightning, Its Origin and Characteristics".
Sbornik Dokladov Nauchn. Tekhn. Konferentsii Stud. Leningr. Politekhn. In-ta,
pp 3-19, 1953.

The hypothesis of Ya. I. Frenkel' (Izvestiya AN Ser. Geofiz., 8, 325, 1944) is used by the author to clarify electrification and polarization in a cloud, the mechanism for the formation of lightning, and the occurrence of excess negative charge of the earth. Analyzing the dependence of the behavior of field strength during clear weather upon variations in solar radiation, he arrives at the conclusion that the main role in the process of storm formation belongs to the sun. The sun is the main factor determining both the intensity of storm activity and also the field intensity of clear day. He presents data on storm activity and protection against storms. (RZhGeiol, No 11, 1955)

SO: Sum No 884, 9 Apr 1956

TIKHODEYEV, N. N.

Certain Laws Governing Thunderstorm Activity
Tr. Leningr. politekhn. in-ta, No 1, 1954, pp 162-167

The author briefly describes the mechanism governing the occurrence of a thunderstorm. The separation of charges occurs under the influence of rising currents, imparting to the drops of various sizes a charge and different velocities, as a result of which a critical potential difference is formed. The author considers it necessary to evaluate the intensity of thunderstorm activity by means of its effect on one square kilometer of the earth's surface in the course of one storm day. (KZhGeol, No 3, 1955)

SO: Sum.No. 639, 2 Sep 55

TIKHODEYEV, N. N.

TIKHODEYEV, N. N.- "Certain Problems in the Theory of Corona and its Calculation in High-voltage d-c Lines." Min of Higher Education USSR, Leningrad Polytechnic Institute imeni M. I. Kalinin, Leningrad, 1955 (Dissertations for Degree of Candidate of Technical Sciences)

SO: Knizhnaya Letopis' No. 26, June 1955, Moscow

GORDEYEVA, Ye.K.; MARINETS, T.K.; TIKHODRYEV, N.N.; TUSHINSKIY, L.I.

A unit for testing metals for lasting strength and creep in ionized gaseous media. Zav.lab. 21 no.4:487-488 '55 (MLRA 8:6)

1. Leningradskiy politekhnicheskii institut imeni M.I.Kalinina
(Creep of metals)(Metals--Testing)(Testing-machines)

USSR/Physics - Electricity, Power transmission

FD-3204

Card 1/1 Pub. 153-13/28

Author : Tikhodeyev N. N.

Title : Some applications of the methods of similarity and dimension to the theory of corona discharge with a direct-current voltage

Periodical : Zhur. Tekh. Fiz. 25, No 7, 1257-1264, 1955

Abstract : On the basis of the dimensional method the author formulated similarity criteria and calculation formulas for different conditions of corona discharge. He established that it is feasible, contrary to widespread opinion, to model complex phenomena associated with corona under laboratory conditions, including problems encountered in the planning of high-voltage d.c. transmission lines. Graphs, diagrams. Nine references: seven USSR.

Institution :

Submitted : April 7, 1954

FD-3183

Tikhodeyev N. N.
USSR/Physics - Unipolar Corona

Card 1/1 Pub. 153-13/21

Author : Tikhodeyev, N. N.

Title : The differential equation of a unipolar corona and its integration in the simplest cases

Periodical: Zhur. tekhn. fiz., 25, No 8 (August), 1955, 1449-1457

Abstract : The author states that despite the large number of experimental works devoted to the investigation of corona discharge, the theory of this phenomenon has been developing very slowly, mostly because of the nonlinearity of the original differential equations. He presents the complete analytical solution of the problem in the three simplest cases. These are: unipolar current of the corona in the case of plane electrodes, in the case of concentric cylinders, and in the case of electrodes in the form of concentric spheres. The author thanks O. V. Shcherbachev and A. V. Vorob'yev.

Submitted : March 22, 1954

Tikhodeyev, N.N.

USSR/Electronics - Gas Discharge and Gas Discharge Instruments

H-7

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 12371

Author : Vorol'ev, A.V., Tikhodeyev, N.N.

Inst : -

Title : Physical Simulation of the Characteristics of Corona.

Orig Pub : Zh. tekhn. fiziki, 1955, 25, No 11, 2008-2010

Abstract : Using the balance equations for the positive and negative ions, and also taking into account the field of the space charge and the boundary conditions, the authors find general similarity criteria for the characteristics of corona in dc and ac voltages (in the case of a two-conductor system).

Bibliography, 5 titles.

Card 1/1

TIKHOMYEV, N.N., kandidat tekhnicheskikh nauk.

Remarks on N.F.Bakushev's article. Elektrichestvo no.9:88-89 S
'56. (MLRA 9:11)

1. Leningradskiy politekhnicheskij institut imeni Kalinina.
(Electric lines)

VOROB'YEV, A.V.; TIKHODEYEV, N.N.

Effect of the geometric parameters of high-tension d.c. transmission
lines on generalized corona characteristics. Zhur.tekh.fiz. 26 no.4:
759-766 Ap '56. (MLRA 9:8)
(Electric lines) (Corona (Electricity))

USSR/Electronics - Gas Discharge and Gas-Discharge Instruments, H-7

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 35168

Abstract: account the sag of the conductors ($2b$ -- distance between conductors, r_0 -- radius of conductor, H -- height of suspension). Dividing the wires produces the same effect as for the case of unipolar corona in a split wire.

Card 2/2

TIKHODEYEV, N.N.

USSR/Electronics - Gas Discharge and Gas-Discharge Apparatus

H-7

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 7158

Author : Tikhodeyev, N.N.

Title : Concerning One Law Governing the Transition of Unipolar Corona Discharge Into Spark Discharge

Orig Pub : Zh. tekhn. fiziki, 1956, 26, No 7, 1495-1496

Abstract : Pointing out the difficulties encountered in an attempt to formulate a theory for the transition of a corona discharge into a spark discharge, the author proposes to use the analog method for the solution of technical problems.

= An experimental investigation, carried out for a system of corona electrodes (a system comprising a hyperboloid of revolution and a plane 4 or 8 cm apart) have confirmed conclusively that in geometrically-similar gaps the ratio of the spark voltage to the initial corona voltage does not depend on the linear scale of the electrodes, provided the generalized currents are equal. Bibliography, 6 titles.

Card : 1/1

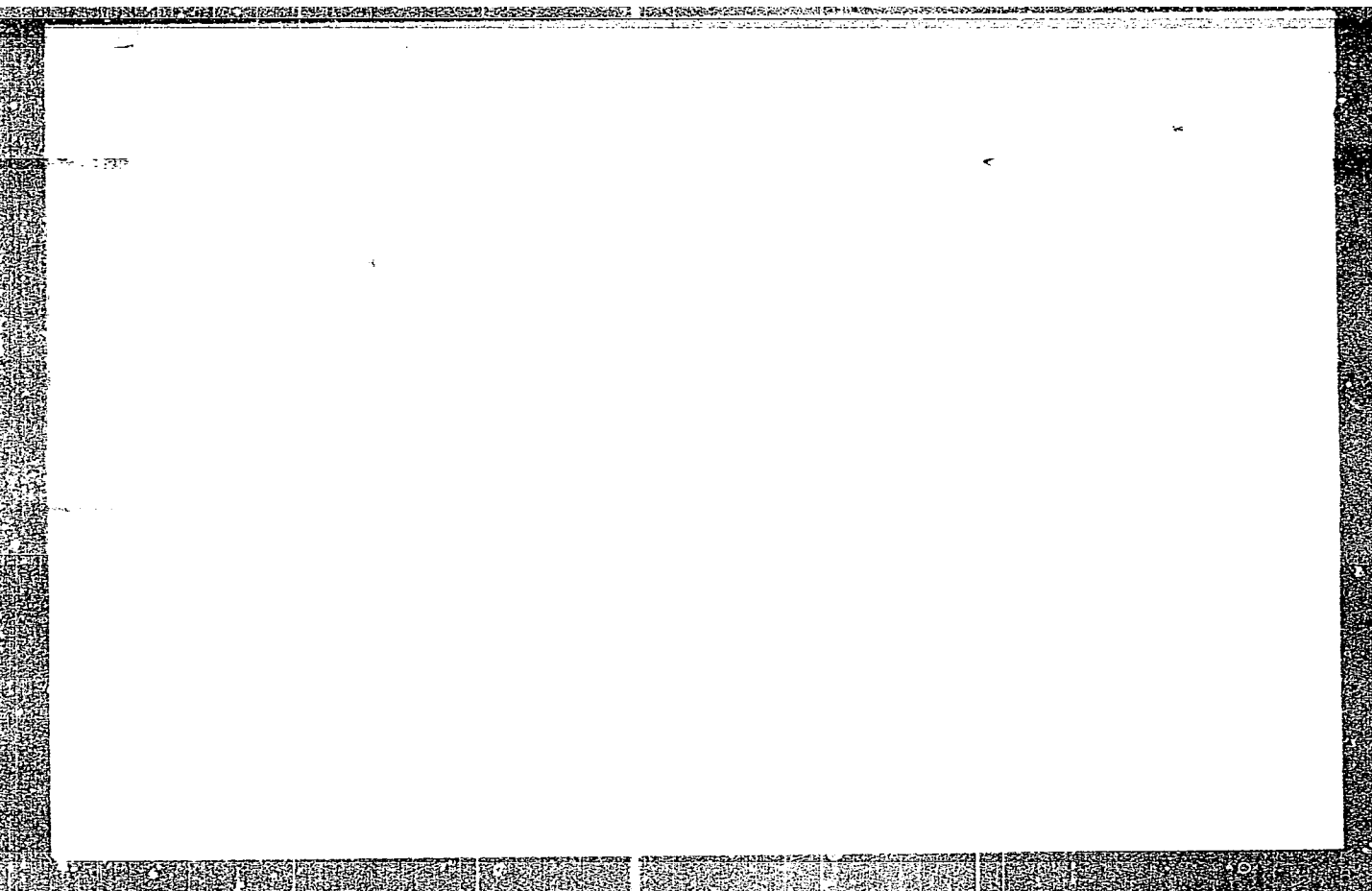
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Zurn.techn.fis, 26, fasc.11, 2518-2523 (1956) CARD 2 / 2 PA - 1687

The occurrence of corona on the wire rope: In the case of unipolar lines corona was formed, according to experiments carried out, already at $U/U_{op} = 1,3$ to $1,4$. Here U denotes the voltage on the line, and U_{op} - the initial voltage of the corona on the line. Here the amperage of the corona between the lines and the wire rope increased rapidly and depended only little on the protective angle. The typical generalized corona characteristics are shown in a diagram. The reduction of the difference of height between the wire rope and the line rapidly reduces the voltage at which corona occurs on the wire rope. The change of the diameter of the wire rope exercises but little influence. A bipolar corona between the lines and the wire rope was not noticed at any protective angles even in the case of very thin wire ropes. A "premature" occurrence of a corona on the wire rope is rendered difficult in the case of a bipolar circuit by the fact that by the filling up of the space between the conductors with ions of both signs the additional charge on the wire rope due to the ions is widely compensated. In conclusion the use of an insulated wire rope in a parallel current line is discussed. When transmitting high power the unipolar method is able to compete successfully with the bipolar one.

INSTITUTE:

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001755530008-7



APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001755530008-7"

TIKHOMYEV, N.N., kandidat tekhnicheskikh nauk.

Similarity criteria relationships in the theory of coronas.

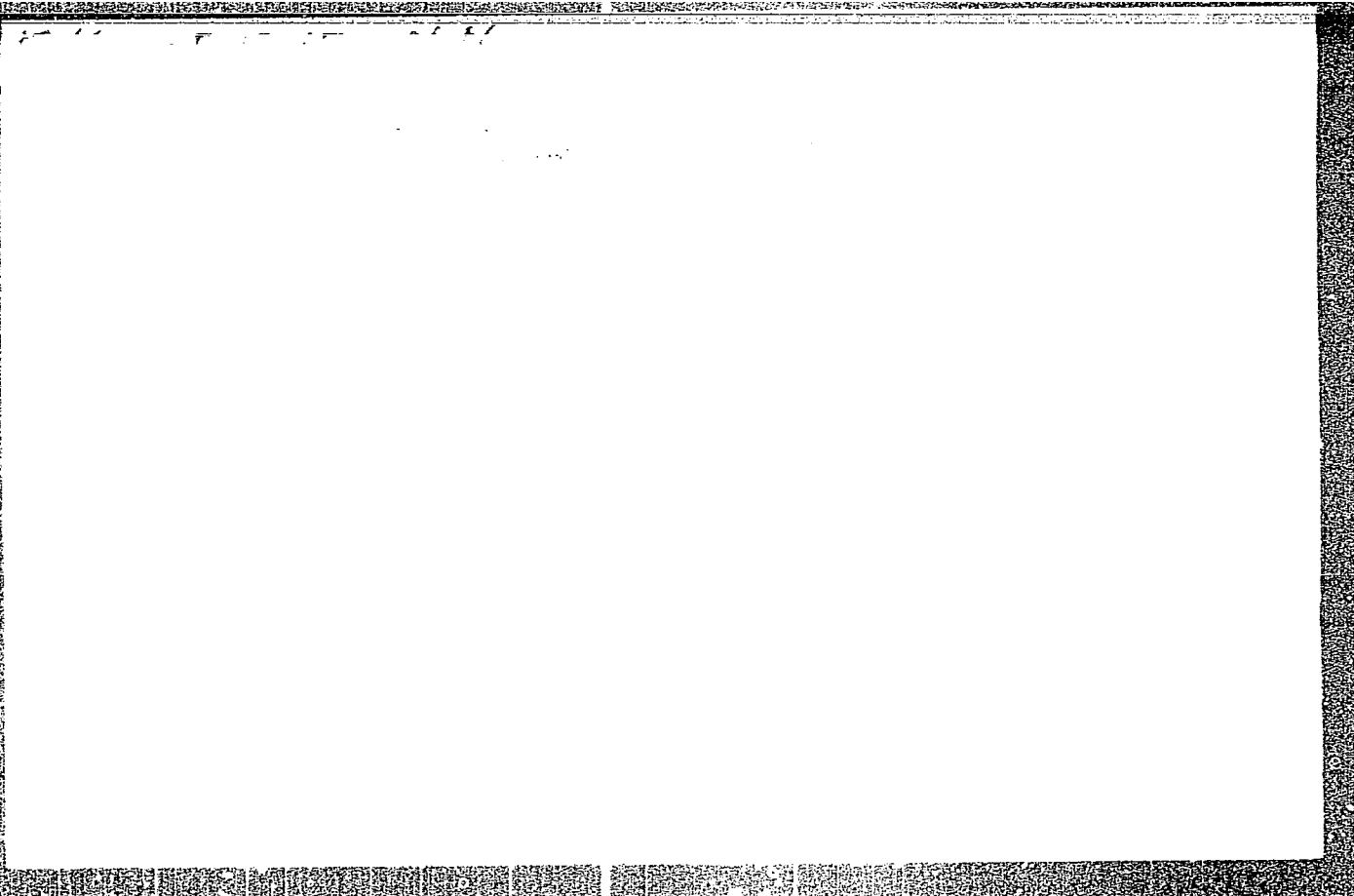
Elektrichestvo no.4:25-29 Ap '57.

(MLRA 10:5)

1. Nauchno-issledovatel'skiy institut postoyannogo toka.
(Corona (Electricity))

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001755530008-7



APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001755530008-7"

AUTHOR: ALEKSANDROV, G.N., TIKHODEEV, N.N. PA - 2142
 TITLE: Concerning a Wrong Hypothesis in the Theory of Corona Discharge
 (Ob odnoy oshibochnoy gipoteze v teorii korony. Russian).
 PERIODICAL: Zhurnal Tekhn. Fiz., 1957, Vol 27, Nr 2, pp 410 - 413 (U.S.S.R.)
 Received: 3 / 1957 Reviewed: 4 / 1957.
 ABSTRACT: The article by POPKOV, V.I. in Zhurnal Tekhn. Fiz., 25, 13 is
 criticized. According to the author's opinion, the statement made
 here concerning the so-called critical gradients of the corona
 potential is erroneous. It is shown in what manner PIK, F. obtained
 the hypothesis on corona discharge at different gradients and in
 what way a hypothesis was spread which is by no means confirmed.
 POPKOV followed in the foot steps of PIK. His quantitative argu-
 mentations are not convincing. Also his assumption that all
 negative ions decay at the ionization boundary is not confirmed
 and very doubtful. Even if this assumption were accepted, his
 conclusion that, with the increase of $\frac{U}{U_{a.b.}}$, if $E_k^+ = E_{a.b.}$
 E_k^+ decreases, cannot agreed with. (U denotes the initial voltage
 of the bipolar corona). (E_k denotes the critical voltage necessary
 to maintain the discharge in the case of the presence of the ion-
 counter-current). It is shown that a steep rise of current ought

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PA - 2142

Concerning a wrong Hypothesis in the Theory of Corona Discharge.
to have been observed which, however, neither the authors nor
POPKOV were able to detect. (No illustrations).

ASSOCIATION: Politechnic Institute M.I.Kalinin, Leningrad.

PRESENTED BY:

SUBMITTED: 27.1.1956

AVAILABLE: Library of Congress.

ИЗВЕСТИЯ

Деловая, VII

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PHASE I BOOK EXPLOITATION

809/1986

Moscow. Nauchno-issledovatel'skiy institut postoyannogo toka

Peredacha energii postoyannym i peremennym tokom (Power Transmission by Direct and Alternating Current) Moscow, Gosenergoizdat, 1958. 334 p. (Series: Izv. izvestiya, sb. 3) 3,350 copies printed.

Ed.: Pintsov, A.M.; Tech. Ed.: Voronetskaya, L.V.; Editorial Board: Shchedrin, N.N., Doctor of Technical Sciences, Corresponding Member, USSR Academy of Sciences, Professor (Chief Ed.); Gertelk, A.K., Engineer; Tsel'm'yanov, V.I., Candidate of Technical Sciences; Pimenov, V.P., Candidate of Technical Sciences; Pintsov, A.K., Candidate of Technical Sciences; Posen, A.V., Candidate of Technical Sciences; Sena, L.A., Doctor of Physical and Mathematical Sciences, Professor; Sosin, M.N., Engineer; Shukhtun, M.G., Candidate of Technical Sciences.

FOREWORD: This collection of articles, issued by the USSR Ministry of Electric Power Stations, is intended for scientists, engineers and designers of high-voltage overhead transmission lines.

Card 1/13

Shchedrin, N.N. and A.V. Tushnov. Flashover Voltage in Wide Air Spaces of A-C Lines

113

The intensive Soviet drive for construction of 400-kV and, in the near future, of 500 - 650 kV transmission lines caused GOST and NIIPI to commission the author to carry out a thorough investigation of known test results in the USA and new experimental work on this problem. The results have now been introduced into practice in transmission lines. The equivalent circuit method for cascade transformers was worked out by A.K. Gertelk. There are 6 diagrams and 13 references, of which 6 are English, 5 Soviet and 2 German.

PIKHOIDEYEV, G. N.; with VOROB'YEVA, A. V.

"Investigation of Corona Characteristics in Models of High-voltage D-Lines,"
p 314, with VOROB'YEVA, A. V.

"Some Basic Electrostatic Problems in High-voltage Technique," with GOREV, A. A.,
ALEKSANDROV, G. N., Levinshhteyn, M. L., and PIRYAZEVA, A. I. p 578

High Voltage Technique, Moscow, Gosenergoizdat, 1958, 664pp
(Series: Its Trudy, No. 195)

This collection of articles sums up the principal results of investigations and studies made by Prof. A. A. Gorev, Dr. Tech. Sci., and his staff in the field of high voltage phenomena and techniques at LPI (Leningrad Polytech Inst.) It was at this institute that Prof. Gorev completed his higher scientific education and then taught and carried on his investigations in the field until his death in 1953. In 1956, by decree of Min of Higher Education, the High-Voltage Lab. at LPI was named after A. A. Gorev.

105-58-3-9/31

AUTHORS: Tikhodeyev, N. N. , Candidate of Technical Sciences,
Tushnov, A. N. Engineer

TITLE: Alternating Current Spark-Over Voltages of Air Gaps
(Razryadnyye napryazheniya vozdushnykh promezhutkov pri
peremennom napryazhenii)

PERIODICAL: Elektrichestvo, 1958, Nr 3, pp. 37 - 39 (USSR)
Moscow, 1958, 39, 1958

ABSTRACT: Here, the first results on the investigations of the electric-
al strength of long air gaps are given. These were obtained
in the Laboratory for High-Voltage-Engineering in the In-
stitute for Direct Current. Here, methodical problems are
investigated, and the curves of spark-over voltages for rod-
-rod gaps and rod-plane gaps are given. The spark-over vol-
tages obtained during a period of smooth rise of alternating
voltage with industrial frequency in the gap and of a voltage
increase from zero up to $U_{\text{discharge}}$ during one cycle are com-
pared with each other. The tests were carried out on an open
test stand. A cascade consisting of three transformers with

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Alternating Current Spark-Over Voltages of Air Gaps

750 kV each, was used as a potential source. The length of each rod in its maximum extended state amounted to 20 m. Based on the tests it was determined that the values of the spark-over voltages of the rod-rod gaps and those of the rod-plane gaps are different to a greater extent than it was hitherto known. It was also determined that this difference becomes greater with an increase of the discharge-gap length. The causes for this fact are uncertain and demand a thorough investigation. The comparison of the results obtained in the Institute for Direct Current with those of earlier investigations showed a good agreement in the voltage range of up to 800 - 900 kV. At higher voltages the data of the American work (Ref. 2) agree with those of the Institute for Direct Current. The authors were advised by A. K. Gertsik and A. M. Zaleskiy. A. A. Filippov assisted in the work. There are 4 figures, 1 table, and 12 references, 4 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut postoyannogo toka (Scientific Research Institute for Direct Current)

SUBMITTED: April 22, 1957
Card 2/2

57-2-29/32

AUTHOR: Tikhodeyev, N. N.

TITLE: On the Theory of the Barrier-Layer Effect in a System of Electrodes With an Incomplete Barrier Layer (K teorii bar'yernogo effekta v sisteme elektrodov s nepolnym bar'yerom)

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1958, Vol. 28, Nr 2, pp.412-423 (USSR)

ABSTRACT: One of the simplest cases of the effect is investigated here: air, constant voltage, unsymmetrical interspace (from the point of view of the field) with an incomplete barrier layer. (I. e. a barrier layer which does not completely cover the electrode forming the corona). The fundamental attention was paid to the following 3 problems: 1.) Determination of the qualitative aspect of the phenomenon, 2.) mathematical formulation of the problem and 3.) foundation of the possibility of a physical model of a barrier-layer effect. In this connection special attention was paid to the construction of the test apparatus. For this purpose a special (frameless) system for the fastening of the barrier layer was used, the dimen-

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57-2-29/32

On the Theory of the Barrier-Layer Effect in a System of Electrodes With an Incomplete Barrier Layer

sions of the plane and the "needles" were enlarged in a way so that the distance from the investigated interspace to the foreign objects amounted to at least the tenfold amount of the interspace. As corona-forming electrode was used a "needle" in the form of a regular hyperboloid of revolution. The hyperboloids were carefully cut (according to special patterns), chromium-plated and before the test degreased with alcohol. The barrier layer in the shape of a long strip was set up vertically. - It is shown that the barrier effect owes its formation to the corona-discharge in the interspace. The rules governing the discharge are, however, principally different in interspaces with complete and incomplete barriers. The performed tests show that the entire process of discharge in an interspace with incomplete barrier layer at a gradual increase in voltage may be subdivided into three qualitatively different stages: 1.) The stage of a nonsteady additional charge of the barrier layer, 2.) the stage of a steady flow round the barrier by a flow of ions and 3.) the stage of sparks. The tests showed that the flow round the barrier layer by the flow of ions begins the later the closer the barrier is to the

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57-2-29/32

On the Theory of the Barrier-Layer Effect in a System of Electrodes With
an Incomplete Barrier Layer

needle and the wider the barrier is. With a decrease in the width of the barrier the α'/α ratio, which yields the maximum rupturing voltage, is displaced in the direction of the lower values. The most advantageous α'/α is $0,15 \pm 0,2$. As barrier the author used: cable insulating paper (ordinary and oiled), rubber, veniplast, enameled tissue, nettles, grid tissue. It was found that only in the last two cases the rupturing voltage was by $10 \pm 20\%$ lower. In all other cases the rupturing voltage, the voltage of flowing round and the characteristic $I = f(U)$ were independent of the barrier-material. U denotes the voltage. The posing of the problem of the calculation of the field in the interspace with a barrier in the stage of flowing round (second stage) is treated and the sets of equations for the field as well as the conditions of similitude are formulated. The solution of the set of equations (12) is due to the mathematical complications (non-linearity of the initial equation) connected with great difficulties. These may considerably be diminished on transition to an infinitely thin flat barrier. For finding the condi-

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On the Theory of the Barrier-Layer Effect in a System of Electrodes With an Incomplete Barrier Layer

tions of similitude the set of equations (12) is brought to the invariant form. The performed tests completely confirm the correctness of the theoretical conclusions. Yu. A. Romanenko performed the tests. The work was discussed with A. V. Vorob'yev. There are 8 figures, 1 table, and 9 references, 8 of which are Slavic.

SUBMITTED: April 24, 1957

AVAILABLE: Library of Congress

1. Barrier layer-Determination
2. Barrier layer-Mathematical analysis
3. Barrier layer-Theory

Card 4/4

57-28-4-33/39

AUTHORS: Yegorova, L. V. , Tikhodeyev, N. N.

TITLE: A Generalization of the Experimental Data on Corona Losses
Obtained in 380-400 kV Lines (Obobshcheniye opytnykh dannykh
o poteryakh na koronu, poluchennykh na liniyakh 380-400 kv)

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1958, Vol. 28, Nr 4, pp.886-895
(USSR).

ABSTRACT: The results of a generalization in the coordinates of the
criteria of the a.c.-corona characteristics, measured in
380-400 kV test lines showed the following. 1) The geo-
metrical criteria and the criterion of homochronism
(gomokhronnost') do not exert any marked influence upon
the generalized characteristics of the corona losses.
2.) The fundamental criterion of the generalization is the
 U/U_0 criterion. U - voltage, U_0 - initial corona-voltage
(for the same phase). 3) The generalized corona-loss-charac-
teristics measured in different countries in single and
double lines are in the main in good agreement with each
other as well during good weather as during rain of dif-

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A Generalization of the Experimental Data on Corona Losses Obtained in
380-400 kV Lines

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ferent intensity, during dry and wet snow, and during hoar-frost, in case that the initial voltage of the common corona is assumed as U_0 . 4) Due to the invariance of the generalized corona-characteristics the latter cannot be used for the calculation of the annual average of corona-losses in domains of lines where direct measurements are missing. There are 5 figures, 2 tables, and 16 references, 9 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut postoyannogo toka,
Leningrad
(Leningrad, Scientific Research Institute for Direct Current)

SUBMITTED: March 25, 1957

Card 2/2

VOSKRESENSKIY, N.A., inzh.; YEGOROVA, L.V., inzh.; TIKHODEYEV, N.N.,
kand.tekhn.nauk; FILIPPOV, A.A., inzh.

Method for calculating average annual corona losses. Elek.sta.
29 no.1:53-56 Ja '58. (MIRA 11:2)
(Corona (Electricity))

YEGOROVA, L.V., inzh.; TIKHODEYEV, N.N., kand. tekhn. nauk.

Average annual corona loss on 400 kv and 600-650 kv transmission
lines. Elek. sta. 29 no.2:71-74 P '58. (MIRA 11:3)
(Corona (Electricity))

VOROB'YEV, A.V.; TIKHOD'YEV, N.N.

Studying corona characteristics on a model of a d.c. high-voltage
line. Trudy LPI no.195:314-322 '58. (MIRA 11:10)
(Corona (Electricity))
(Electric power distribution--Direct current)

GOREV, A.A. [deceased]; ALEKSANDROV, G.H.; LEVINSHTYK, M.L.; PIYAZHEV,
A.I.; TIKHODEYEV, N.N.

Some basic ~~electrostatic~~ problems of high-voltage engineering.
Trudy LPI no.195:578-619 '58. (MIRA 11:10)
(Electric engineering--Problems, exercises, etc.)

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SOV/105-59-2-2/25

AUTHORS: ~~Tikhodetev, N. N.~~; Candidate of Technical Sciences,
Tushnov, A. N., Engineer

TITLE: Discharge Voltage Across Large Air Gaps Approximating Overhead
Line and Substation Insulation Clearances in Shape (Razryadnyye
napryazheniya dlinnykh vozdushnykh promezhutkov, priblizhayu-
shchikhsya k promezhutkam vozdushnykh liniy i podstantsiy)

PERIODICAL: Elektrichestvo, 1959, Nr 2, pp 6-10 (USSR)

ABSTRACT: In the authors' article (Ref 1) a difference in the values
of discharge voltages between rod-rod gaps and rod-plane gaps
was stated. In connection with this, investigations were car-
ried out in 1957, in the Nauchno-issledovatel'skiy institut
postoyannogo toka (Scientific D.C. Research Institute) on air
gaps that are the most remarkable for their geometrical
shape at designing transmission lines and open air substa-
tions. Out of the large number of possible clearances the
following were investigated: line - support, line - rod,
line - line, ring - ring, vertical ring - plane, sphere - plane,
horizontal ring - plane. The discharge voltages were reached
by gradually increasing the voltage applied on the gap. The
test plant was described in detail in the article (Ref 1). The

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Discharge Voltage Across Large Air Gaps Approximating Overhead Line and Substation Insulation Clearances in Shape

energy was supplied by three 750 kv transformers. Two connections were used: 1) All 3 transformers were joined in cascade; 2) upper transformers were cascaded whilst the lower transformer was connected in such a way that its voltage was in phase opposition to the voltage of the two upper transformers. The method of measuring the voltage at the first connection was described in detail by the article (Ref 1). At the second connection, the calibration of the capacitive divider connected to the terminals of the medium transformer was carried out by two independent methods. The test results were the same for both cases. The calibration curve was a straight line as at the first connection. - The test results of the above named air gaps are given. Summarizingly the following statements are made: at present, there is neither a possibility of explaining the physical reasons for the consistency of the discharge voltages at electrodes of different shapes nor to detect the reasons for the large difference in discharge voltages of the clearances between line - support, ring - ring

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Discharge Voltage Across Large Air Gaps Approximating Overhead Line and Substation Insulation Clearances in Shape

ring - plane. It only can be noted that the discharge voltages in air gaps of electrodes of unlike shape (sphere - plane, ring - plane) are of similar value to those in the rod-plane gap whilst the gaps with electrodes of the same shape (ring - ring, line - line) show discharge voltages of nearly the same value as those in the gaps. By comparing the discharge voltages of differently shaped gaps it is seen that for estimating the minimum admissible clearances at lines and substations, three main curves of discharge voltages can be used, only: figure 6, curves 1, 2, and 3. There are 6 figures, 1 table, and 3 references, 2 of which are Soviet.

• SUBMITTED: September 24, 1958

Card 3/3

TIKHODEYEV, N.N.; TUSHNOV, A.N.

Selecting minimum permissible air gaps with regard to internal overvoltages for lines, substations, and apparatus with voltages from 220 to 700 kv. Izv. NIPT no.4:125-152 '59. (MIRA 13:2)
(Electric discharges)
(Electric apparatus and appliances)

TIKHODEYEV, N. N., BURGSDORF, V. V., YEGOROVA, L. U., YEMEL'YANOV, N. F.

"Corona Studies On Extra-High Voltage Transmission Lines."

report to be submitted for Intl. Conference on Large Electric Systems (CIGRE),
18th Biennial Session, Paris, France, 15-25 Jun 60.

TIKHODEYEV, N.N.; TUSHNOV, A.N.

Discharge potentials of long suspension insulators on a.c.
power transmission lines. Izv. NIPT no.6:185-202 '60.

(MIRA 14:7)

(Electric lines—Overhead)

(Electric insulators and insulation)

TIKHODEYEV, N.N.

Electrostatic field and some features of wound wires and cables
with a wound inner strand. Izv. NIIP no.5:214-227 '60.

(MIRA 14:1)

(Electric cables)

(Electric lines)

KOVAL'SKAYA, O.T.; LAVRUKHIN, A.M.; NIKOL'SKIY, N.K.; RYABOV, B.M.;
TIKHODEYEV, N.N.

Comparison of corona losses in a.c. and d.c. electric power
transmission lines with equal bundled conductors. Izv. NIPT
no.6:155-163 '60. (MIRA 14:7)

(Electric power distribution)
(Corona (Electricity))

TIKHODEYEV, N.N., kand.tekhn.nauk; TUSHNOV, A.N., inzh.

Electric characteristics of long insulator chains for lines with
voltages of 500 kv. or higher. Elektrichestvo no.7:56-61 J1
'60. (MIRA 13:8)

1. Nauchno-issledovatel'skiy institut postoyannogo toka.
(Electric insulators and insulations)

BURGS DORF, V.V., doktor tekhn.nauk; YEGOROVA, L.V., inzh.;
YEMEL'YANOV, N.P., kand.tekhn.nauk; TIKHODEYEV, N.N., kand.
tekhn.nauk

Corona on electric power transmission lines carrying extremely
high voltages. Elek. sta. 31 no.8:65-72 Ag '60. (MIRA 14:9)
(Electric lines--Overhead)
(Corona (Electricity))

TIKHODEYEV, N.N.

Choice of leads with consideration of corona at open 110 to 750 kv.
electric substations. Izv. NIIPT no.7:203-214 '61. (MIRA 14:9)
(Electric substations)

As a result, the

on 10/10/2014

Table 4. Basic relation ships for general cases of the β -type transmission lines.

SOURCE: Dal'nive elektropredachi 500 kv (Long-distance transmission of 500 kv.
 Dal'nivskaya oblast, 1977, 130 p. (M. V. Kuznetsov, ed.))

TOPIC TAGS: corona, corona loss, high voltage transmission, electric power transmission, power line, alternating current transmission, weather effect, conductor selection

ABSTRACT: Using a previously derived (IEEE Trans. No. 3, 461) expression for corona power loss on a three-phase high voltage line, the author examines the variation of the average yearly corona power loss with significant line parameters. Assuming variation of only one parameter at a time, analytical expressions are derived for the yearly average corona power loss as a function of the parameter.

corona discharge is investigated for ASO-type conductors by evaluating the ratio of the average yearly corona loss P to the conductor loss P_3 (aluminum). The con-